

1 Spencer Kenner (SBN 148930)
2 James E. Mizell (SBN 232698)
3 **DEPARTMENT OF WATER RESOURCES**
4 Office of the Chief Counsel
5 1416 9th St.
6 Sacramento, CA 95814
7 Telephone: +1 916 653 5966
8 E-mail: jmizell@water.ca.gov

9 Attorneys for California Department of Water
10 Resources

11 **BEFORE THE**
12 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

13 HEARING IN THE MATTER OF CALIFORNIA
14 DEPARTMENT OF WATER RESOURCES
15 AND UNITED STATES BUREAU OF
16 RECLAMATION REQUEST FOR A CHANGE
17 IN POINT OF DIVERSION FOR CALIFORNIA
18 WATER FIX

19 REBUTTAL TESTIMONY OF JOHN
20 LEAHIGH
21 (EXHIBIT DWR-78)

22 I, John Leahigh, do hereby declare:

23 **I. INTRODUCTION**

24 **A. Organization of Testimony**

25 In my rebuttal testimony, I provide a statement of my qualifications, a discussion of
26 how conservative assumptions are used for allocations, a description of the sources of
27 water available for export, the primary reasons for releases made from Lake Oroville, the
28 use of existing pumping capacity, increased opportunities to capture excess flows as a
substitute for stored water, difficulties in meeting water quality standards in some years, an
increased efficiency of Delta flow regime with the California WaterFix (CWF), and finally an
explanation as to why application of Term 91 would not be expected to change with the
CWF operation.

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1 **B. Qualifications.**

2 I have provided my qualifications in my opening testimony [Exhibit DWR-61] and
3 Statement of Qualifications [Exhibit DWR 21]. There are no material changes.

4 **II. ALLOCATION**

5 Mr. Bourez contends that his modeling is a more realistic representation of what
6 actual operations would be under the CWF by claiming that "operators have a lot more
7 information at their disposal to make these decisions." [October 20, 2016 Transcript, Vol
8 20, p. 211:11-19.] He further implies that available water supply and export capability is
9 pretty well known and makes adjustments to the model allocations in response to that
10 assumption. However, the MBK modeling presented in the Sacramento Valley Water
11 Users (SVWU) case-in-chief incorporates more foresight than the operators truly possess
12 and results in a more risky operation of the SWP than is consistent with the SWP's practice
13 of prudently conservative operations.

14 The SWP allocation incorporates a broad range of variables including but not limited
15 to: 1) volume of water stored in Lake Oroville and San Luis Reservoir; 2) end of year
16 storage targets for Lake Oroville and San Luis Reservoir; 3) forecasted runoff based on
17 snow survey measurements; 4) required Feather River flows for fish habitat, senior water
18 right holders, and terms of the Federal Regulatory Energy Commission license; 5) Feather
19 River service area delivery obligations from Thermalito Afterbay; 6) anticipated depletions
20 in the Sacramento River basin; 7) estimated Delta consumptive use; 8) anticipated State
21 Water Board Delta outflow and salinity requirements; 9) anticipated export restrictions for
22 the protection of listed fish species under the National Marine Fishery Service and United
23 States Fish and Wildlife Service biological opinions; and 10) contractor delivery requests
24 and delivery patterns. By far, the largest uncertainty exists in the forecasted runoff, but
25 many of the other variables are somewhat correlated with or dependent on the runoff. For
26 runoff projections, the Projects utilize disaggregated watershed exceedance forecasts
27 associated with the development and publication of DWR's Bulletin 120 (B-120). This
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1 provides a wide range of probable outcomes early in the water year. As the water year
2 develops, the uncertainty in the future forecast narrows, but still remains significant. For
3 example, 2012 was a near average year in terms of precipitation and the February B-120
4 that year estimated an 80% probability range of 1.530 to 4.845 million acre-feet (MAF) of
5 runoff into Lake Oroville from the upper Feather River watershed – a difference of 3.315
6 MAF (equal to the capacity of Lake Oroville when nearly full). In the May 2012 B-120, that
7 estimate had narrowed to an 80% probability range of 2.685 to 3.350 MAF. To be
8 prudently conservative, the SWP uses the lower end of the runoff forecast ranges
9 throughout the Sacramento watershed when making water allocation decisions to their
10 water supply contractors. These lower end forecasts have a 90% chance of being
11 exceeded, or in other words, there is a 90% chance that actual observed runoff will be
12 higher. Even with a narrowed range in the May forecast, the remaining water year runoff
13 forecast for Lake Oroville still had more than 600 TAF of uncertainty, which is equivalent to
14 a one and a half months of permitted SWP exports during the summer months.

15 There remains additional uncertainty beyond that in the runoff forecast. Export
16 restrictions for the protection of fish can continue through the end of June. When making
17 allocation decisions for its water supply contractors, the SWP assumes a conservative
18 estimate of these restrictions. In addition, conservative estimates are assumed for other
19 obligations including deliveries to meet settlement contractor deliveries and the amount of
20 water necessary to meet the water quality requirements.

21 For the summer months, the SWP uses the conservative estimate of inflow into Lake
22 Oroville to plan releases of stored water for SWP export and delivery south-of-the Delta in
23 an effort to meet the end of year carryover storage target. However, at times, the stored
24 water necessary to meet other obligations will result in end of year storages being pulled
25 below the target. These other necessary releases to meet other Project obligations will be
26 described in more detail later under Section IV.

27 For the SWP, the initial allocation is made in December, based on the variables
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1 previously listed. Early in the year (winter and spring), the exports are typically operated to
2 export surplus water within the constraints of the biological opinions and maintaining Delta
3 requirements. These exports are used to either satisfy real-time demand or are stored in
4 San Luis Reservoir. The upstream reservoirs are typically operated to capture runoff for
5 future beneficial uses while also providing flood protection. The water supply in the snow
6 pack also develops throughout the early part of the year. As the year progresses the
7 allocation is reevaluated on a monthly basis and allocations are updated based on updated
8 runoff forecasts, storages and demands. By May, the SWP has typically provided its final
9 allocation. After the final allocation there is a significant difference between how much
10 water supply was allocated and how much supply is actually exported. The conservative
11 nature of the allocation process more often than not results in San Luis Reservoir storages
12 that are higher than necessary to meet that year's allocated supply. The additional storage,
13 if any, is available for the SWP's allocation in the following year.

14 Mr. Bourez does not make assumptions in a manner consistent with the criteria
15 outlined in this section, and for a fuller critique of Mr. Bourez's assumptions see the
16 modeling rebuttal testimony Exhibits DWR-79 and DWR-86.

17 **III. SOURCE OF WATER FOR EXPORT**

18 Mr. Nomellini asserts in his testimony that the Projects should not export water
19 during the winter until it becomes clear that the current year will not be a dry year.
20 [November 18, 2016 Transcript, Vol 30, pp.123:24-124:8.] The working assumption for the
21 Project is that dry conditions will occur in the future. In fact, as previously stated,
22 conservative assumptions of forecasted hydrology are always used when making allocation
23 decisions for the coming year.

24 Project exports are generally supported during the winter and early spring months by
25 runoff occurring from precipitation on the valley floor or by required flood releases from
26 Project or other reservoirs upstream of the Delta. These excess flows are typically
27 available intermittently even in the driest of years (e.g. 2015) and not exporting these flows
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1 will not help upstream storage conditions. By definition, these flows are in excess of that
2 needed to meet all legal diversions and Delta water quality objectives and not exporting
3 under these conditions will represent a lost opportunity to utilize water supply for beneficial
4 use.

5 During the wettest years, excess flows are available all year long including during
6 the summer due to substantial snowpack that melts out into much of the summer months.
7 In addition, CVP and SWP surface storages are generally high and may need to be
8 reduced to provide adequate vacated storage space for flood control purposes into the late
9 fall.

10 Exhibit DWR-850 illustrates three typical examples of the sources of water during a
11 wet, critical, and near normal conditions. In both very wet and very dry years the highest
12 percent of exports is from excess natural flow in the system. Of course in critically dry
13 years this flow is very much reduced and therefore overall annual exports are a mere
14 fraction of what is available in wetter years. During the more average or normal years the
15 source of water is more evenly divided between excess flow and stored water released
16 from upstream reservoirs. Some of the stored water that is exported at Banks Pumping
17 Plant was originally released from Lake Oroville for Feather River flow requirements and
18 not released specifically for export. This flow is only exported once it has served this other
19 purpose and would otherwise flow out to the bay as excess to other requirements. The
20 small amount of stored water that was released from Lake Oroville specifically for export at
21 Banks Pumping Plant in the extremely dry years of 2014 and 2015 was for health and
22 safety needs only. This supply must be delivered at Banks Pumping Plant for some cities
23 contracting for SWP water because they can only access their SWP supplies directly from
24 the Delta. They have no other way of receiving this supply because they have no SWP
25 connection to San Luis Reservoir.

26 Therefore Mr. Nomellini's implication that upstream storages are being imprudently
27 drafted early in the year to support exports is based on a false premise – that the source of
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1 the Project's exports is upstream storage. In fact, the source of winter exports is
2 predominately surplus flows that would end up as excess Delta outflow if not exported and
3 put to beneficial use by the Projects.

4 **IV. PRIMARY REASONS FOR RELEASES FROM LAKE OROVILLE**

5 Witnesses during the California Sportfishing Protection Alliance (CSPA) case-in-
6 chief [Exhibit CSPA -4-Rev, p.15] indicated that the Project releases too much storage in
7 drier years which results in periods when insufficient storage is available to meet water
8 quality objectives. Exhibit DWR-851 shows the primary reasons for releases from Lake
9 Oroville during three different types of years. Lake Oroville is a multi-purpose facility and
10 Exhibit DWR-851 indicates the multiple reasons for release – the vast majority of which are
11 non-discretionary.

12 In wet years, a significant volume of water is released in order to maintain the
13 required amount of vacated storage necessary to absorb excessive inflow from extreme
14 storm events, thereby attenuating the magnitude of flows impacting downstream levee
15 systems.¹

16 In years when the primary reason for Lake Oroville releases includes a significant
17 portion that is explicitly for Delta export at Banks Pumping Plant, other release
18 requirements still make up the majority of releases. In 2012, over 40 percent of the
19 releases were needed for Feather River flow requirements,² Delta requirements³ or pass
20 through of natural flow to meet downstream water rights diversions of other users. Nearly
21 30 percent of the releases from the lake were made to meet local settlement contracts.⁴
22 The remaining 27 percent was released to help meet discretionary SWP water supply
23 contractors' deliveries south of the Delta. This amount was moderated in order to maintain

24 ¹ United States Corps of Engineers flood control requirements

25 ² Federal Energy Regulatory Commission license requirements and National Marine
26 Fishery Service maximum ramping rates

27 ³ State Water Board Decision 1641 flow and water quality objectives

28 ⁴ Specific volumes of delivery out of Thermalito Afterbay as specified by DWR settlement
agreements with pre-existing Feather River users.

1 reasonable levels of carryover storage in the event dry conditions occurred in subsequent
2 years. The tempering of releases for this purpose in this year (and all years where a
3 significant amount of stored water is released for export) is confirmed by the fact that some
4 of the SWP export capability was not fully utilized in that year during the summer months.

5 The SWP moderates the releases from Lake Oroville to meet the SWP water supply
6 contractors demands. The Project balances the needs of the current year with the risks for
7 meeting the many requirements and beneficial purposes of storage in subsequent years.
8 In this balancing process, the SWP policy is to incrementally increase conserved storage
9 for subsequent years as the available water for water supply deliveries in the current year
10 increases.

11 As evidenced in my direct testimony [Exhibit DWR-61], the track record of the
12 Projects for meeting water quality standards has been excellent other than for recent
13 examples of exceptional drought. I will discuss additional extenuating circumstances which
14 challenged the system in section VIII below. Based on this record, I find the broad
15 assertion by CSPA that the Projects systematically leave insufficient water in storage to
16 meet water quality standards to be without merit.

17 **V. USE OF EXISTING PUMPING CAPACITY**

18 During the CSPA case-in-chief [Exhibit CSPA-4-Rev, p.3], the contention is made
19 that Oroville operations in releasing stored water for export is unrealistic as depicted in the
20 modeling for CWF. CSPA asserts that, in the absence of current south Delta export
21 constraints⁵ on Banks Pumping Plant, SWP operation should be expected to be more
22 aggressive in releasing additional stored water from Lake Oroville for delivery south of
23 Delta during the summer months.

24 In addition during the SVWU's case-in-chief [Transcript, Vol 20, p. 68:20-22.] Mr.
25 Bourez states that the Central Valley Project would be expected to utilize joint point of
26 diversion (JPOD) more frequently with the CWF than modeled by the petitioners.

27 ⁵ Such as the current permitted United States Army Corps of Engineer's Clifton Court Gate
28 intake limits from the existing SWP south Delta diversion location.

1 In theory, the addition of the proposed north Delta diversion associated with the
2 CWF when combined with existing Clifton Court Forebay intake permit capacity would
3 increase the opportunities to utilize full Banks Pumping Plant capabilities for both the export
4 of Lake Oroville stored water and use of JPOD to export CVP upstream stored water.

5 Exhibit DWR-852 depicts historical use of CVP and SWP export capacity. The
6 dashed red line depicts the maximum volume of combined CVP and SWP exports over the
7 summer months (July – September) given existing south Delta permitted capacity. The
8 solid red line represents the actual volume used each year over the time period from 2000
9 through 2016. The dotted red line indicates the volume of CVP export that was conveyed
10 using JPOD through the SWP Banks Pumping Plant during each of these years. The red
11 dotted line is therefore a subset of the volumes depicted by the solid red line. The solid
12 grey line depicts cumulative unmet demand of both the CVP and SWP over this same time
13 period. With the exception of 2006, there was always some amount of unmet demand in
14 every year. Sacramento valley year types are characterized by a color scheme
15 transitioning from blue in wet years, greens for above and below normal, yellow for dry and
16 red for critically dry.

17 The chart indicates that maximum export capacity was utilized in both wet years
18 (2006 and 2011) and one of the above normal year types (2005). During all three of these
19 years, excess flows were available for export throughout the summer period. For 2005, this
20 was the case primarily because 2005 was classified as a wet year with regard to the San
21 Joaquin Valley index. During the two additional above normal year types (2000 and 2003),
22 something short of full capacity was utilized during these years. In all remaining years from
23 below normal to critically dry, a significant amount of unused capacity existed. The grey
24 line indicates that there was always unmet demand in years when the full export capacity
25 was not being fully utilized – this demonstrates that the Project operators were limiting the
26 amount of stored water released for export.

27 Based on the foregoing, it is my opinion that the assertions by protestants, in
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1 particular Mr. Shutes for CSPA and Mr. Bourez for SVWU, that a more aggressive release
2 and export of stored water operation would occur with the CWF's increased conveyance
3 capacity are without merit. Their assertion does not in any respect comport with the end of
4 year carryover policies nor the historical practice of limiting the release of stored water for
5 export even when unused capacity exists.

6 **VI. INCREASED OPPORTUNITIES TO CAPTURE EXCESS FLOWS AS A**
7 **SUBSTITUTE FOR STORED WATER WITH CWF**

8 Assertions by Mr. Bourez [Exhibits SVWU-100 and 107] on behalf of SVWU and
9 assertions by Mr. Shutes on behalf of CSPA [Exhibit CSPA-4-Rev, p.15] indicated a more
10 aggressive use of stored water than the petitioner's modeling results for CWF.

11 Comparative modeling for the CWF (that was prepared in the BA, the EIR/EIS, and
12 exhibits for this hearing), as illustrated by Exhibit DWR-853 indicates that a higher
13 percentage of source water for exports will come from excess flows than from stored water
14 for the SWP with the proposed project as compared with the no action alternative (NAA).
15 The modeling indicates that with CWF the SWP will be less reliant upon stored water from
16 Oroville to meet the same or better levels of water deliveries. Exhibit DWR-853 shows that
17 although total exports increase as a result of the proposed CWF project, there is actually a
18 decrease in the volume of stored water from upstream Sacramento Valley reservoirs to be
19 exported from the Delta. This modeling result is consistent with the SWP policy of leaving
20 higher levels of carryover storage in Lake Oroville as current year delivery capability
21 increases. Greater emphasis is given to the next year's objectives as the current year's
22 objectives are increasingly satisfied. This supplementary storage is in addition to providing
23 a reasonable level of carryover storage necessary to meet Project obligations should the
24 following year be dry.

25 The modeling results of Mr. Bourez which show a more aggressive use of stored
26 water with the CWF (Exhibit DWR-854) are diametrically inconsistent with this policy.

27 Operations under CWF would be a step toward returning to the flexibility available
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1 prior to the export restrictions resulting from implementation of the 2008 and 2009
2 biological opinions. Under a pre-biological opinion, i.e. the D-1641 regulatory environment,
3 the Projects were allowed to use more surplus water to supply south of Delta demands –
4 similar to what benefits will be realized by a CWF.

5 Mr. Shutes describes how the SWP and CVP system has been stressed twice since
6 2006 [Exhibit CSPA-4-Rev, p. 15]. This change is in alignment with the implementation of
7 OMR restrictions on the exports. Exhibit DWR-855 shows the shift in export pattern from
8 the 2005 to 2011 Delivery Reliability Report. This comparison shows that the ability to
9 export available spring flows has been severely reduced. Some of this pre-existing ability
10 to export excess flows would be restored with the CWF. This return of flexibility would
11 make the Projects less reliant on upstream storages to meet Project objectives.

12 **VII. DIFFICULTIES IN MEETING STANDARDS IN SOME YEARS**

13 Mr. Shutes on behalf of CSPA [Exhibit CSPA-4-Rev, p.4] and Ms. Paulsen on
14 behalf of the City of Brentwood [Exhibit Brentwood-100, pp. 3:26-4:4] assert that it is
15 unreasonable for the CWF to rely on Temporary Urgency Change Petitions (TUCPs) in
16 meeting Bay-Delta standards in successive dry years and adverse hydrologic changes
17 associated with climate change.

18 Although the Projects attempt to carryover sufficient storage in their major upstream
19 reservoirs to meet needs in subsequent dry years, no level of storage is an absolute
20 guarantee to meet all water needs during a succession of dry years considering California's
21 extreme volatility in annual precipitation. In addition to the threat of exceptionally dry years,
22 competition for scarce water supplies to meet competing beneficial uses can produce
23 unforeseen emergency management decisions which force compromised results.

24 For example, during the most recent drought in the dry year 2013, the Projects
25 began cutting back on discretionary releases when confronted with what was developing
26 into the driest calendar year in recorded history. In what is a rare occurrence, the SWP
27 reduced previous allocated deliveries to its water supply contractors by over two hundred
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1 thousand acre feet in late spring to increase Lake Oroville storage for anticipated
2 requirements in 2014. The thirteen months between December 2012 and February 2014
3 turned out to be utterly unprecedented in terms of lack of precipitation for any similar length
4 period historically.

5 Calendar year 2014 proceeded to be arguably the most extreme calendar year in
6 terms of a combination of warmth and dryness on record and calendar year 2015 was a
7 never seen before year with next to no appreciable snowpack. The challenges associated
8 with cold water pool management at Shasta Reservoir in 2014 and 2015 forced enormous
9 pressure on Oroville and Folsom to meet a significantly higher proportion of the Delta water
10 quality and outflow objectives than had been previously anticipated. Because Lake Shasta
11 is by far the largest SWP/CVP reservoir it has been expected to provide the brunt of the
12 stored water to meet these objectives. So, although the Projects ceased all discretionary
13 releases of stored water months earlier, regulatory (some unforeseen) and contractual
14 requirements threatened to drain the reservoirs to the extent that salinity control of the
15 Delta and therefore health and safety supplies to much of the State's cities were at an
16 unacceptable level of risk. Faced with this risk State and federal water managers and
17 regulators were forced to implement emergency management actions to balance the
18 impacts to beneficial uses. This list of actions included the granting of temporary urgency
19 change petitions to modify implementation of some of the more resource intense
20 objectives, voluntary and mandatory curtailing of water use statewide, and installation of a
21 physical rock barrier in the Delta to control salinity intrusion.

22 Arguably sacrifices were shared by all beneficial uses. Although various interest
23 groups could find fault with the balancing, these emergency policy and management
24 actions are completely independent of the decisions before the Board during this hearing
25 as it relates to the proposed CWF project.

26 Although the CWF project would be neutral in relation to water management during
27 the exceptional droughts of which we have just experienced or in the event of adverse
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1 climatic changes, it would provide increased opportunities to capture excess flows in
2 average to wet years over the long-term.

3 **Essentially the CWF project is a storm water capture program writ large.** By
4 increasing opportunities to capture excess Delta flows in wetter periods will result in
5 increased rates of recovery of depleted surface water and groundwater storages south of
6 the Delta. The CWF better prepares the State's cities and industries for the inevitable
7 drought periods.

8 Although exceptional droughts and adverse hydrologic changes associated with
9 climate change do present severe challenges to the future of water management in
10 California, Mr. Shutes and Ms. Paulsen fail to link these concerns with the petitioned project
11 before the Board. These circumstances are wholly independent of the CWF; by contrast
12 the CWF will better sustain water supply in the state when faced with these challenges.

13 **VIII. INCREASED EFFICIENCY OF DELTA FLOW REGIME WITH CWF**

14 In his testimony [December 1, 2016 Transcript, Vol. 32, p.20:1], Mr. Brodsky of Save
15 the California Delta Alliance, said: "This [operations with CWF] is a big change to the way
16 water is flowing in the Delta. And when questioned Mr. Leahigh on that, he was not willing
17 to admit that – that troubles me deeply that he would be that dishonest." Other protestants
18 generally alleged large changes in Delta hydrodynamics as well.

19 In response, I would like to explain why at its core the flow regime necessary to
20 maintain a fresh water corridor in the Delta does not change with the CWF. Continued
21 maintenance of this fresh water corridor during lower flow (balanced) conditions is
22 necessary to meet the municipal and industrial as well as agricultural salinity standards
23 required as part of D-1641. These standards require a minimum cross Delta flow (through
24 the Delta Cross Channel, Georgiana Slough, and Three Mile Slough) in order to bring fresh
25 Sacramento flow to the central and south Delta [See Exhibit DWR-856]. In fact, the Delta
26 Cross Channel was designed and constructed to bring fresh water across the Delta and it
27 will continue to serve that function. Some level of negative flow in the Old and Middle
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1 Rivers south of Franks Tract as partially provided by the SWP exports is necessary to bring
2 this fresh water flow into the CCWD's Rock Slough, Old River, and Middle River pumping
3 plants as well as the SWP and CVP export facilities all of which have M&I water quality
4 requirements under existing D-1641. This minimum level of export is probably in the range
5 of 2000 cfs to 5000 cfs depending on tidal conditions. Exports higher than these rates
6 cause negative flows on the lower San Joaquin River from Sherman Island to Franks Tract
7 in the western Delta, which begin to have an adverse effect on Delta salinities by bringing
8 Bay salinity into the interior Delta. The Projects must compensate for this effect by
9 providing higher than required net Delta outflow (NDO) via the release of additional flow
10 from the upstream reservoirs to push fresh water further west in the Sacramento-San
11 Joaquin River confluence region. This addition of "carriage water" is a means to negate
12 salt water intrusion effect caused by high south Delta pumping.

13 Operations with the CWF will continue to require some base level of export to bring
14 fresh water supplies across the Delta, but use of the proposed North Delta Diversion will
15 allow for higher export rates without subjugating the interior Delta to salinity intrusion
16 caused by high western Delta reverse flows and the need for higher than required NDO
17 supported by additional upstream reservoir releases.

18 As I indicated under my direct testimony [Exhibit DWR-61] and in slide 37 of my
19 power point [Exhibit DWR-4-errata], during high flow conditions with excess outflow, the
20 proposed North Delta Diversions will have an insignificant effect on Delta hydrodynamics
21 by skimming a mere fraction of the flows from large storm events.

22 So, in summary, the core hydrodynamics in the Delta to meet water quality
23 objectives under low to moderately low export levels will remain the same as today with
24 CWF. The hydrodynamics for higher export levels will improve in efficiency by lessening
25 the reliance on upstream storages of both the SWP and CVP. Under high flow conditions
26 the Delta hydrodynamics will remain essentially unchanged.

1 **IX. TERM 91 NOT EXPECTED TO CHANGE WITH CWF OPERATION**

2 In his testimony [Exhibits SVWU 100, slide 47, and SVWU 107, pp. 4-5, 30-31, 62-
3 63 and 79-80], Mr. Bourez tries to illustrate that the post-processed MBK modeling shows a
4 higher frequency of Term 91 curtailments. This result does not make logical sense when
5 one examines the purpose of Term 91. Term 91 is a standard permit term applicable to
6 water right permits issued by the State Water Board since 1965. Term 91 prohibits these
7 water right holders from diverting water when the Projects are making supplemental
8 storage releases to meet water quality objectives and other in-basin requirements in the
9 Sacramento-San Joaquin Delta Watershed. These supplemental storage releases are
10 necessary when available natural flows are not sufficient to meet the in-basin uses and
11 Delta requirements. The MBK modeling shows that Term 91 will be implemented roughly
12 5% more often April through September. However, in order for this to be true, an increase
13 in either in-basin use or Delta requirements would need to exist. The only changes in
14 existing Delta requirements proposed by the CWF are increased limitations on the Projects'
15 diversions from the south Delta. The use of stored water to meet Delta outflow and salinity
16 objectives would be unchanged, and in fact less water may be required (as explained in the
17 previous section). It appears there may be flaw in the MBK analysis. I do not expect the
18 frequency of Term 91 curtailments to change with construction of the CWF facilities.
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20 Executed on 22 day of March, 2017 in Sacramento, California

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22 John Leahigh
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